

## ANALYTICAL REPORT

Job Number: 280-50453-2

Job Description: 995|Waimanalo Gulch LF

For:

Waste Management  
Waimanalo Gulch Landfill  
92-460 Farrington Highway  
Kapolei, HI 96707

Attention: Mr. Justin Lottig



Approved for release.  
Betsy A Sara  
Project Manager II  
1/9/2014 9:08 AM

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01/09/2014

cc: Mr. Mark Hofferbert  
Ms. Margie Thach

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

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# Table of Contents

Cover Title Page .....	1
Report Narrative .....	3
Executive Summary .....	5
Method Summary .....	6
Method / Analyst Summary .....	7
Sample Summary .....	8
Sample Results .....	9
Sample Datasheets .....	10
Data Qualifiers .....	15
QC Results .....	16
Qc Association Summary .....	17
Surrogate Recovery Report .....	23
Qc Reports .....	24
Laboratory Chronicle .....	49
Subcontracted Data .....	54
Client Chain of Custody .....	68
Sample Receipt Checklist .....	70

## CASE NARRATIVE

**Client: Waste Management**

**Project: 995|Waimanalo Gulch LF**

**Report Number: 280-50453-2**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) less than TestAmerica's standard reporting limit. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

### **Sample Receiving**

The sample was received on 12/18/2013; the sample arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 2.0 ° C and 3.4° C.

The sample collection time on the chain of custody for sample DB01-E did not match the collection times on the containers. The time on the chain of custody is listed as 12:14 and it is listed as 13:10 on the containers. The sample was logged per the chain of custody. The client was notified on 12/19/2013.

### **Holding Times**

All holding times were met.

### **Method Blanks**

Total Selenium Method 200.7, Total Phosphorus Method 365.1 and Chemical Oxygen Demand (COD) Method 410.4 were detected in the Method Blanks below the project established reporting limits. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits. The Method Blank data are included at the end of this report.

All other Method Blanks were within established control limits.

### **Laboratory Control Samples (LCS)**

The Method 200.7 LCS for Total Cadmium was above control limits. Because the data are considered to be biased high and all associated samples were non-detect for Total Cadmium, corrective action was deemed unnecessary.

All other Laboratory Control Samples were within established control limits.

### **Matrix Spike (MS) and Matrix Spike Duplicate (MSD)**

The method required MS/MSD could not be performed for Method 625 due to insufficient sample volume, however, a LCS/LCSD pair was analyzed to demonstrate method precision and accuracy.

Sample FLIPBUCKET (280-50453-1) was selected to fulfill the laboratory batch quality control requirements for Method 351.2. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Total Kjeldahl Nitrogen (TKN) below the lower control limit indicating the possible presence of a matrix interference.

The Matrix Spike and Matrix Spike Duplicate performed on a sample from another client exhibited recoveries outside control limits for Total Arsenic and Total Cadmium Method 200.7. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

All other MS and MSD samples were within established control limits.

### **General Comments**

For samples requiring analysis at a dilution, the dilution factor has been multiplied by the Method Detection Limit (MDL) for each analyte and evaluated versus the project-specific reporting limit (PSRL). If the obtained value is below the PSRL, then the PSRL is preserved as the reporting limit for the diluted result, otherwise, the obtained value becomes the reporting limit. This is done in order to maintain the

PSRL to meet permit requirements at the request of the client and to report the lowest possible RL for each analyte.

The analysis for Oil/Grease Method 1664A was performed by TestAmerica Buffalo. Their address and phone number are:

TestAmerica Buffalo  
10 Hazelwood Drive, Suite 106  
Amherst, NY 14228  
716-691-2600

The analysis for Biochemical Oxygen Demand (BOD) was performed by TestAmerica Honolulu. Their address and phone number are:

TestAmerica Honolulu  
1946 Young Street  
Suite 400A  
Honolulu, HI 96826  
Phone: 808.486.5227

The analysis for Hexavalent Chromium was performed at TestAmerica's Irvine facility.

TestAmerica Irvine  
17461 Derian Avenue  
Suite 100  
Irvine, CA 92614  
Phone: 949.261.1022

## EXECUTIVE SUMMARY - Detections

Client: Waste Management

Job Number: 280-50453-2

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
<b>280-50453-2</b>						
Field pH	DB01-E	8.60			SU	Field Sampling
Ammonia		0.23		0.10	mg/L	350.1
Nitrogen, Kjeldahl		0.95		0.50	mg/L	351.2
Nitrate Nitrite as N		2.8		0.10	mg/L	353.2
Phosphorus, Total		0.35	B	0.050	mg/L	365.1
Chemical Oxygen Demand		30	B	20	mg/L	410.4
Total Suspended Solids		74		4.0	mg/L	SM 2540D
Nitrogen, Total		3.8		0.10	mg/L	Total Nitrogen
<i>Dissolved</i>						
Chromium, hexavalent		2.0		1.0	ug/L	218.6
<i>Total Recoverable</i>						
Iron		5.1		0.10	mg/L	200.7 Rev 4.4
Lead		0.0026	J	0.0090	mg/L	200.7 Rev 4.4
Zinc		0.023		0.020	mg/L	200.7 Rev 4.4

## METHOD SUMMARY

Client: Waste Management

Job Number: 280-50453-2

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Semivolatile Organic Compounds (GC/MS)	TAL DEN	40CFR136A 625	
Liquid-Liquid Extraction	TAL DEN		40CFR136A 625
Metals (ICP)	TAL DEN	EPA 200.7 Rev 4.4	
Preparation, Total Recoverable Metals	TAL DEN		EPA 200.7
Mercury (CVAA)	TAL DEN	EPA 245.1	
Preparation, Mercury	TAL DEN		EPA 245.1
Nitrogen, Ammonia	TAL DEN	MCAWW 350.1	
Nitrogen, Total Kjeldahl	TAL DEN	MCAWW 351.2	
Nitrogen, Total Kjeldahl	TAL DEN		MCAWW 351.2
Nitrogen, Nitrate-Nitrite	TAL DEN	MCAWW 353.2	
Phosphorus, Total	TAL DEN	EPA 365.1	
Phosphorus, Total	TAL DEN		MCAWW 365.2/365.3/365
COD	TAL DEN	MCAWW 410.4	
Solids, Total Suspended (TSS)	TAL DEN	SM SM 2540D	
Nitrogen, Total	TAL DEN	EPA Total Nitrogen	
Field Sampling	TAL DEN	EPA Field Sampling	
HEM and SGT-HEM	TAL BUF	1664A 1664A	
HEM and SGT-HEM (SPE)	TAL BUF		1664A 1664A
General Sub Contract Method	TAL HON	Subcontract	
Chromium, Hexavalent (Ion Chromatography)	TAL IRV	EPA 218.6	
Sample Filtration, Field			FIELD_FLTRD

### Lab References:

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

TAL HON = TestAmerica Honolulu

TAL IRV = TestAmerica Irvine

### Method References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

## METHOD / ANALYST SUMMARY

Client: Waste Management

Job Number: 280-50453-2

Method	Analyst	Analyst ID
40CFR136A 625	Williams, Teresa L	TLW
EPA 200.7 Rev 4.4	Scott, Samantha J	SJS
EPA 245.1	Mooney, Joseph C	JM
EPA Field Sampling	Field, Sampler	FS
1664A 1664A	Bubb, Richard M	RMB
MCAWW 350.1	Newcome, Robin S	RSN
MCAWW 351.2	Woolley, Mark -	MW1
MCAWW 353.2	Ayala, Delaina V	DVA
EPA 365.1	Schwemin, Andrew J	AJS
MCAWW 410.4	Benson, Alex F	AFB
SM SM 2540D	Neeley, Beth A	BAN
EPA Total Nitrogen	Sullivan, Roxanne K	RKS
EPA 218.6	Welch, Raquel	RW

## SAMPLE SUMMARY

Client: Waste Management

Job Number: 280-50453-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-50453-2	DB01-E	Water	12/15/2013 1214	12/18/2013 1030

## **SAMPLE RESULTS**

**Analytical Data**

Client: Waste Management

Job Number: 280-50453-2

Client Sample ID: **DB01-E**Lab Sample ID: 280-50453-2  
Client Matrix: WaterDate Sampled: 12/15/2013 1214  
Date Received: 12/18/2013 1030**625 Semivolatile Organic Compounds (GC/MS)**

Analysis Method:	625	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Prep Method:	625	Prep Batch:	280-206102	Lab File ID:	K5093.D
Dilution:	1.0			Initial Weight/Volume:	1050.6 mL
Analysis Date:	12/27/2013 0425			Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Alpha-Terpineol	ND		0.0019	0.010
Benzoic acid	ND		0.0095	0.050
p-Cresol	ND		0.00024	0.010
Pentachlorophenol	ND		0.019	0.060
Phenol	ND		0.0019	0.010

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol	102		50 - 120
2-Fluorobiphenyl	89		36 - 120
2-Fluorophenol	97		30 - 120
Nitrobenzene-d5	100		45 - 120
Phenol-d5	99		36 - 120
Terphenyl-d14	61		41 - 120

**Analytical Data**

Client: Waste Management

Job Number: 280-50453-2

Client Sample ID: **DB01-E**Lab Sample ID: 280-50453-2  
Client Matrix: WaterDate Sampled: 12/15/2013 1214  
Date Received: 12/18/2013 1030**218.6 Chromium, Hexavalent (Ion Chromatography)-Dissolved**

Analysis Method:	218.6	Analysis Batch:	440-152190	Instrument ID:	IC-20
	N/A	Prep Batch:	N/A	Lab File ID:	Info 2_TAIIRVIC20_Hexa
Dilution:	1.0			Initial Weight/Volume:	10 mL
Analysis Date:	12/23/2013 1821			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1000 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Chromium, hexavalent	2.0		0.25	1.0

**Analytical Data**

Client: Waste Management

Job Number: 280-50453-2

Client Sample ID: **DB01-E**Lab Sample ID: 280-50453-2  
Client Matrix: WaterDate Sampled: 12/15/2013 1214  
Date Received: 12/18/2013 1030**200.7 Rev 4.4 Metals (ICP)-Total Recoverable**Analysis Method: 200.7 Rev 4.4  
Prep Method: 200.7  
Dilution: 1.0  
Analysis Date: 12/23/2013 2202  
Prep Date: 12/20/2013 1215Analysis Batch: 280-206558  
Prep Batch: 280-206058Instrument ID: MT\_026  
Lab File ID: 26a03122313z.asc  
Initial Weight/Volume: 50 mL  
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Arsenic	ND		0.0044	0.015
Cadmium	ND	*	0.00045	0.0050
Iron	5.1		0.022	0.10
Lead	0.0026	J	0.0026	0.0090
Zinc	0.023		0.0045	0.020
Silver	ND		0.00093	0.010

Analysis Method: 200.7 Rev 4.4  
Prep Method: 200.7  
Dilution: 1.0  
Analysis Date: 12/27/2013 0112  
Prep Date: 12/20/2013 1215Analysis Batch: 280-206761  
Prep Batch: 280-206058Instrument ID: MT\_026  
Lab File ID: 26a04122613.asc  
Initial Weight/Volume: 50 mL  
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Selenium	ND		0.0049	0.015

**245.1 Mercury (CVAA)**Analysis Method: 245.1  
Prep Method: 245.1  
Dilution: 1.0  
Analysis Date: 12/20/2013 1444  
Prep Date: 12/20/2013 0935Analysis Batch: 280-206361  
Prep Batch: 280-205953Instrument ID: MT\_033  
Lab File ID: 131220aa.txt  
Initial Weight/Volume: 30 mL  
Final Weight/Volume: 30 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	ND		0.000027	0.00020

**Analytical Data**

Client: Waste Management

Job Number: 280-50453-2

**General Chemistry****Client Sample ID:** DB01-E

Lab Sample ID: 280-50453-2

Date Sampled: 12/15/2013 1214

Client Matrix: Water

Date Received: 12/18/2013 1030

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
HEM	ND		mg/L	1.4	5.0	1.0	1664A
	Analysis Batch: 480-159350		Analysis Date: 12/24/2013 1851				
	Prep Batch: 480-159349		Prep Date: 12/24/2013 1851				
Ammonia	0.23		mg/L	0.022	0.10	1.0	350.1
	Analysis Batch: 280-207019		Analysis Date: 12/30/2013 1538				
Nitrogen, Kjeldahl	0.95		mg/L	0.18	0.50	1.0	351.2
	Analysis Batch: 280-207314		Analysis Date: 01/02/2014 2044				
	Prep Batch: 280-207179		Prep Date: 01/02/2014 0817				
Nitrate Nitrite as N	2.8		mg/L	0.019	0.10	1.0	353.2
	Analysis Batch: 280-207152		Analysis Date: 12/31/2013 1604				
Phosphorus, Total	0.35	B	mg/L	0.0050	0.050	1.0	365.1
	Analysis Batch: 280-206889		Analysis Date: 12/28/2013 1122				
	Prep Batch: 280-206702		Prep Date: 12/26/2013 1710				
Chemical Oxygen Demand	30	B	mg/L	4.1	20	1.0	410.4
	Analysis Batch: 280-205961		Analysis Date: 12/19/2013 1725				
Total Suspended Solids	74		mg/L	1.1	4.0	1.0	SM 2540D
	Analysis Batch: 280-205879		Analysis Date: 12/19/2013 0748				
Nitrogen, Total	3.8		mg/L	0.042	0.10	1.0	Total Nitrogen
	Analysis Batch: 280-207342		Analysis Date: 01/03/2014 0847				

**Analytical Data**

Client: Waste Management

Job Number: 280-50453-2

**Field Service / Mobile Lab****Client Sample ID:** DB01-E

Lab Sample ID: 280-50453-2

Client Matrix: Water Date Sampled: 12/15/2013 1214

Date Received: 12/18/2013 1030

Analyte	Result	Qual	Units	Dil	Analysis	Date Analyzed	
					Method	Batch	Date Prepared
Field pH	8.60		SU	1.0	Field Sampling	280-205900	12/15/2013 1214

## DATA REPORTING QUALIFIERS

Client: Waste Management

Job Number: 280-50453-2

Lab Section	Qualifier	Description
GC/MS Semi VOA	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Metals	F1	MS and/or MSD Recovery exceeds the control limits
	*	Recovery or RPD exceeds control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry	B	Compound was found in the blank and sample.
	F1	MS and/or MSD Recovery exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

# **QUALITY CONTROL RESULTS**

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS Semi VOA</b>					
<b>Prep Batch: 280-206102</b>					
LCS 280-206102/2-A	Lab Control Sample	T	Water	625	
LCSD 280-206102/3-A	Lab Control Sample Duplicate	T	Water	625	
MB 280-206102/1-A	Method Blank	T	Water	625	
280-50453-2	DB01-E	T	Water	625	
<b>Analysis Batch: 280-206695</b>					
LCS 280-206102/2-A	Lab Control Sample	T	Water	625	280-206102
LCSD 280-206102/3-A	Lab Control Sample Duplicate	T	Water	625	280-206102
MB 280-206102/1-A	Method Blank	T	Water	625	280-206102
280-50453-2	DB01-E	T	Water	625	280-206102

**Report Basis**

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 280-205953</b>					
LCS 280-205953/2-A	Lab Control Sample	T	Water	245.1	
MB 280-205953/1-A	Method Blank	T	Water	245.1	
280-50429-B-1-B MS	Matrix Spike	T	Water	245.1	
280-50429-B-1-C MSD	Matrix Spike Duplicate	T	Water	245.1	
280-50453-2	DB01-E	T	Water	245.1	
<b>Prep Batch: 280-206058</b>					
LCS 280-206058/2-A	Lab Control Sample	R	Water	200.7	
MB 280-206058/1-A	Method Blank	R	Water	200.7	
280-50429-A-1-A MS	Matrix Spike	R	Water	200.7	
280-50429-A-1-B MSD	Matrix Spike Duplicate	R	Water	200.7	
280-50453-2	DB01-E	R	Water	200.7	
<b>Analysis Batch:280-206361</b>					
LCS 280-205953/2-A	Lab Control Sample	T	Water	245.1	280-205953
MB 280-205953/1-A	Method Blank	T	Water	245.1	280-205953
280-50429-B-1-B MS	Matrix Spike	T	Water	245.1	280-205953
280-50429-B-1-C MSD	Matrix Spike Duplicate	T	Water	245.1	280-205953
280-50453-2	DB01-E	T	Water	245.1	280-205953
<b>Analysis Batch:280-206558</b>					
LCS 280-206058/2-A	Lab Control Sample	R	Water	200.7 Rev 4.4	280-206058
MB 280-206058/1-A	Method Blank	R	Water	200.7 Rev 4.4	280-206058
280-50429-A-1-A MS	Matrix Spike	R	Water	200.7 Rev 4.4	280-206058
280-50429-A-1-B MSD	Matrix Spike Duplicate	R	Water	200.7 Rev 4.4	280-206058
280-50453-2	DB01-E	R	Water	200.7 Rev 4.4	280-206058
<b>Analysis Batch:280-206761</b>					
LCS 280-206058/2-A	Lab Control Sample	R	Water	200.7 Rev 4.4	280-206058
MB 280-206058/1-A	Method Blank	R	Water	200.7 Rev 4.4	280-206058
280-50429-A-1-A MS	Matrix Spike	R	Water	200.7 Rev 4.4	280-206058
280-50429-A-1-B MSD	Matrix Spike Duplicate	R	Water	200.7 Rev 4.4	280-206058
280-50453-2	DB01-E	R	Water	200.7 Rev 4.4	280-206058

#### Report Basis

R = Total Recoverable

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Field Service / Mobile Lab</b>					
<b>Analysis Batch:280-205900</b> 280-50453-2	DB01-E	T	Water	Field Sampling	
<b>Report Basis</b>					
T = Total					

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Prep Batch: 480-159349</b>					
LCS 480-159349/2-A	Lab Control Sample	T	Water	1664A	
MB 480-159349/1-A	Method Blank	T	Water	1664A	
280-50311-B-1-A MS	Matrix Spike	T	Water	1664A	
280-50453-2	DB01-E	T	Water	1664A	
<b>Analysis Batch:480-159350</b>					
LCS 480-159349/2-A	Lab Control Sample	T	Water	1664A	480-159349
MB 480-159349/1-A	Method Blank	T	Water	1664A	480-159349
280-50311-B-1-A MS	Matrix Spike	T	Water	1664A	480-159349
280-50453-2	DB01-E	T	Water	1664A	480-159349
<b>Analysis Batch:280-205879</b>					
LCS 280-205879/2	Lab Control Sample	T	Water	SM 2540D	
LCSD 280-205879/3	Lab Control Sample Duplicate	T	Water	SM 2540D	
MB 280-205879/1	Method Blank	T	Water	SM 2540D	
280-50437-A-1 DU	Duplicate	T	Water	SM 2540D	
280-50453-2	DB01-E	T	Water	SM 2540D	
<b>Analysis Batch:280-205961</b>					
LCS 280-205961/3	Lab Control Sample	T	Water	410.4	
LCSD 280-205961/4	Lab Control Sample Duplicate	T	Water	410.4	
MB 280-205961/5	Method Blank	T	Water	410.4	
280-50320-D-1 MS	Matrix Spike	T	Water	410.4	
280-50320-D-1 MSD	Matrix Spike Duplicate	T	Water	410.4	
280-50453-2	DB01-E	T	Water	410.4	
<b>Prep Batch: 280-206702</b>					
LCS 280-206702/3-A	Lab Control Sample	T	Water	365.2/365.3/365	
LCSD 280-206702/4-A	Lab Control Sample Duplicate	T	Water	365.2/365.3/365	
MB 280-206702/5-A	Method Blank	T	Water	365.2/365.3/365	
280-50453-F-1-B MS	Matrix Spike	T	Water	365.2/365.3/365	
280-50453-F-1-C MSD	Matrix Spike Duplicate	T	Water	365.2/365.3/365	
280-50453-2	DB01-E	T	Water	365.2/365.3/365	
<b>Analysis Batch:280-206889</b>					
LCS 280-206702/3-A	Lab Control Sample	T	Water	365.1	280-206702
LCSD 280-206702/4-A	Lab Control Sample Duplicate	T	Water	365.1	280-206702
MB 280-206702/5-A	Method Blank	T	Water	365.1	280-206702
280-50453-F-1-B MS	Matrix Spike	T	Water	365.1	280-206702
280-50453-F-1-C MSD	Matrix Spike Duplicate	T	Water	365.1	280-206702
280-50453-2	DB01-E	T	Water	365.1	280-206702

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:280-207019</b>					
LCS 280-207019/103	Lab Control Sample	T	Water	350.1	
LCSD 280-207019/104	Lab Control Sample Duplicate	T	Water	350.1	
MB 280-207019/105	Method Blank	T	Water	350.1	
280-50453-2	DB01-E	T	Water	350.1	
280-50453-2MS	Matrix Spike	T	Water	350.1	
280-50453-2MSD	Matrix Spike Duplicate	T	Water	350.1	
<b>Analysis Batch:280-207152</b>					
LCS 280-207152/28	Lab Control Sample	T	Water	353.2	
LCSD 280-207152/29	Lab Control Sample Duplicate	T	Water	353.2	
MB 280-207152/27	Method Blank	T	Water	353.2	
280-50221-H-2 MS	Matrix Spike	T	Water	353.2	
280-50221-H-2 MSD	Matrix Spike Duplicate	T	Water	353.2	
280-50453-2	DB01-E	T	Water	353.2	
<b>Prep Batch: 280-207179</b>					
LCS 280-207179/2-A	Lab Control Sample	T	Water	351.2	
LCSD 280-207179/3-A	Lab Control Sample Duplicate	T	Water	351.2	
MB 280-207179/1-A	Method Blank	T	Water	351.2	
280-50453-F-1-E MS	Matrix Spike	T	Water	351.2	
280-50453-F-1-F MSD	Matrix Spike Duplicate	T	Water	351.2	
280-50453-2	DB01-E	T	Water	351.2	
<b>Analysis Batch:280-207314</b>					
LCS 280-207179/2-A	Lab Control Sample	T	Water	351.2	280-207179
LCSD 280-207179/3-A	Lab Control Sample Duplicate	T	Water	351.2	280-207179
MB 280-207179/1-A	Method Blank	T	Water	351.2	280-207179
280-50453-F-1-E MS	Matrix Spike	T	Water	351.2	280-207179
280-50453-F-1-F MSD	Matrix Spike Duplicate	T	Water	351.2	280-207179
280-50453-2	DB01-E	T	Water	351.2	280-207179
<b>Analysis Batch:280-207342</b>					
MB 280-207342/1	Method Blank	T	Water	Total Nitrogen	
280-50453-2	DB01-E	T	Water	Total Nitrogen	

#### Report Basis

T = Total

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>HPLC/IC</b>					
<b>Analysis Batch:440-152190</b> 280-50453-2	DB01-E	D	Water	218.6	
<b>Report Basis</b>					
D = Dissolved					

**Quality Control Results**

Client: Waste Management

Job Number: 280-50453-2

**Surrogate Recovery Report****625 Semivolatile Organic Compounds (GC/MS)****Client Matrix: Water**

Lab Sample ID	Client Sample ID	TBP %Rec	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPH %Rec
280-50453-2	DB01-E	102	89	97	100	99	61
MB 280-206102/1-A		93	89	97	100	101	102
LCS 280-206102/2-A		102	95	99	103	100	99
LCSD 280-206102/3-A		101	93	94	99	95	98

Surrogate	Acceptance Limits
TBP = 2,4,6-Tribromophenol	50-120
FBP = 2-Fluorobiphenyl	36-120
2FP = 2-Fluorophenol	30-120
NBZ = Nitrobenzene-d5	45-120
PHL = Phenol-d5	36-120
TPH = Terphenyl-d14	41-120

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Method Blank - Batch: 280-206102****Method: 625****Preparation: 625**

Lab Sample ID:	MB 280-206102/1-A	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Client Matrix:	Water	Prep Batch:	280-206102	Lab File ID:	K5088.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/27/2013 0206	Units:	mg/L	Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Alpha-Terpineol	ND		0.0020	0.010
Benzoic acid	ND		0.010	0.050
p-Cresol	ND		0.00025	0.010
Pentachlorophenol	ND		0.020	0.060
Phenol	ND		0.0020	0.010
Surrogate	% Rec		Acceptance Limits	
2,4,6-Tribromophenol	93		50 - 120	
2-Fluorobiphenyl	89		36 - 120	
2-Fluorophenol	97		30 - 120	
Nitrobenzene-d5	100		45 - 120	
Phenol-d5	101		36 - 120	
Terphenyl-d14	102		41 - 120	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-206102**

**Method: 625  
Preparation: 625**

LCS Lab Sample ID:	LCS 280-206102/2-A	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Client Matrix:	Water	Prep Batch:	280-206102	Lab File ID:	K5071.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/26/2013 1814	Units:	mg/L	Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL
Leach Date:	N/A				

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LCSD Lab Sample ID:	LCSD 280-206102/3-A	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Client Matrix:	Water	Prep Batch:	280-206102	Lab File ID:	K5072.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/26/2013 1842	Units:	mg/L	Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
1,2,4-Trichlorobenzene	85	80	44 - 120	6	35	
1,2-Dichlorobenzene	83	77	32 - 120	7	42	
1,3-Dichlorobenzene	80	73	23 - 120	10	47	
1,4-Dichlorobenzene	80	73	24 - 120	9	49	
2,2'-Oxybis(1-chloropropane)	104	103	37 - 120	2	30	
2,4,6-Trichlorophenol	100	98	51 - 120	2	30	
2,4-Dichlorophenol	99	95	46 - 120	4	30	
2,4-Dimethylphenol	74	72	44 - 119	3	35	
2,4-Dinitrophenol	99	98	20 - 121	1	61	
2,4-Dinitrotoluene	105	104	57 - 120	1	35	
2,6-Dinitrotoluene	99	101	56 - 120	1	30	
2-Chloronaphthalene	91	89	60 - 118	3	30	
2-Chlorophenol	100	95	34 - 120	4	30	
2-Methylphenol	94	92	38 - 120	2	35	
2-Nitrophenol	108	103	47 - 120	5	30	
3,3'-Dichlorobenzidine	59	55	18 - 120	7	50	J
4,6-Dinitro-2-methylphenol	106	104	40 - 120	2	55	
4-Bromophenyl phenyl ether	93	91	53 - 120	3	34	
4-Chloro-3-methylphenol	99	95	57 - 120	4	30	
4-Chlorophenyl phenyl ether	93	91	51 - 120	2	30	
4-Nitrophenol	98	96	53 - 120	2	42	
Acenaphthene	92	91	47 - 120	2	30	
Acenaphthylene	93	92	33 - 120	1	30	
Anthracene	91	88	52 - 120	3	30	
Benzidine	33	31	10 - 218	7	50	
Benzo[a]anthracene	94	93	54 - 120	1	30	
Benzo[a]pyrene	94	93	39 - 120	1	73	
Benzo[b]fluoranthene	98	97	51 - 120	1	90	
Benzo[g,h,i]perylene	97	97	48 - 120	0	64	
Benzo[k]fluoranthene	94	92	49 - 120	3	50	
Bis(2-chloroethoxy)methane	99	97	50 - 120	2	30	
Bis(2-chloroethyl)ether	103	98	35 - 120	5	30	
Bis(2-ethylhexyl) phthalate	103	101	56 - 120	2	30	
Butyl benzyl phthalate	101	100	53 - 120	1	30	
Chrysene	94	92	51 - 120	2	30	
Dibenz(a,h)anthracene	100	99	45 - 120	1	78	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 280-206102**

**Method: 625  
Preparation: 625**

LCS Lab Sample ID:	LCS 280-206102/2-A	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Client Matrix:	Water	Prep Batch:	280-206102	Lab File ID:	K5071.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/26/2013 1814	Units:	mg/L	Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-206102/3-A	Analysis Batch:	280-206695	Instrument ID:	SMS_K
Client Matrix:	Water	Prep Batch:	280-206102	Lab File ID:	K5072.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/26/2013 1842	Units:	mg/L	Final Weight/Volume:	1000 uL
Prep Date:	12/20/2013 1034			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Diethyl phthalate	98	97	59 - 114	0	30	
Dimethyl phthalate	99	98	58 - 112	1	30	
Di-n-butyl phthalate	97	95	57 - 118	2	30	
Di-n-octyl phthalate	98	96	56 - 120	2	30	
Fluoranthene	96	93	58 - 120	3	30	
Fluorene	94	92	59 - 120	2	30	
Hexachlorobenzene	94	90	53 - 120	4	30	
Hexachlorobutadiene	77	71	27 - 116	8	41	
Hexachlorocyclopentadiene	26	32	10 - 120	21	82	J
Hexachloroethane	75	68	40 - 113	10	52	
Indeno[1,2,3-cd]pyrene	119	93	50 - 120	24	73	
Isophorone	101	96	50 - 120	5	30	
Naphthalene	91	86	37 - 120	6	30	
n-Decane	72	65	28 - 120	10	61	
Nitrobenzene	102	99	46 - 120	2	30	
N-Nitrosodimethylamine	101	97	37 - 120	4	30	
N-Nitrosodi-n-propylamine	100	97	50 - 120	3	30	
N-Nitrosodiphenylamine	91	91	46 - 203	0	50	
p-Cresol	97	94	42 - 120	4	39	
Pentachlorophenol	85	81	46 - 120	5	30	
Phenanthrene	92	90	54 - 120	2	30	
Phenol	100	97	37 - 112	3	30	
Pyrene	92	92	55 - 115	1	30	
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits	
2,4,6-Tribromophenol	102		101		50 - 120	
2-Fluorobiphenyl	95		93		36 - 120	
2-Fluorophenol	99		94		30 - 120	
Nitrobenzene-d5	103		99		45 - 120	
Phenol-d5	100		95		36 - 120	
Terphenyl-d14	99		98		41 - 120	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-206102**

**Method: 625  
Preparation: 625**

LCS Lab Sample ID:	LCS 280-206102/2-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-206102/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/26/2013 1814			Analysis Date:	12/26/2013 1842
Prep Date:	12/20/2013 1034			Prep Date:	12/20/2013 1034
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual		
1,2,4-Trichlorobenzene	0.0800	0.0800	0.0682	0.0643		
1,2-Dichlorobenzene	0.0800	0.0800	0.0663	0.0617		
1,3-Dichlorobenzene	0.0800	0.0800	0.0644	0.0585		
1,4-Dichlorobenzene	0.0800	0.0800	0.0643	0.0588		
2,2'-Oxybis(1-chloropropane)	0.0800	0.0800	0.0836	0.0822		
2,4,6-Trichlorophenol	0.0800	0.0800	0.0802	0.0786		
2,4-Dichlorophenol	0.0800	0.0800	0.0793	0.0762		
2,4-Dimethylphenol	0.0800	0.0800	0.0594	0.0574		
2,4-Dinitrophenol	0.160	0.160	0.158	0.157		
2,4-Dinitrotoluene	0.0800	0.0800	0.0841	0.0832		
2,6-Dinitrotoluene	0.0800	0.0800	0.0795	0.0807		
2-Chloronaphthalene	0.0800	0.0800	0.0729	0.0709		
2-Chlorophenol	0.0800	0.0800	0.0797	0.0762		
2-Methylphenol	0.0800	0.0800	0.0754	0.0739		
2-Nitrophenol	0.0800	0.0800	0.0864	0.0824		
3,3'-Dichlorobenzidine	0.0800	0.0800	0.0473 J	0.0441 J		
4,6-Dinitro-2-methylphenol	0.160	0.160	0.170	0.167		
4-Bromophenyl phenyl ether	0.0800	0.0800	0.0746	0.0727		
4-Chloro-3-methylphenol	0.0800	0.0800	0.0789	0.0759		
4-Chlorophenyl phenyl ether	0.0800	0.0800	0.0744	0.0729		
4-Nitrophenol	0.160	0.160	0.157	0.154		
Acenaphthene	0.0800	0.0800	0.0740	0.0724		
Acenaphthylene	0.0800	0.0800	0.0748	0.0739		
Anthracene	0.0800	0.0800	0.0730	0.0707		
Benzidine	0.0800	0.0800	ND	ND		
Benzo[a]anthracene	0.0800	0.0800	0.0752	0.0747		
Benzo[a]pyrene	0.0800	0.0800	0.0756	0.0745		
Benzo[b]fluoranthene	0.0800	0.0800	0.0783	0.0775		
Benzo[g,h,i]perylene	0.0800	0.0800	0.0778	0.0777		
Benzo[k]fluoranthene	0.0800	0.0800	0.0755	0.0736		
Bis(2-chloroethoxy)methane	0.0800	0.0800	0.0789	0.0772		
Bis(2-chloroethyl)ether	0.0800	0.0800	0.0826	0.0787		
Bis(2-ethylhexyl) phthalate	0.0800	0.0800	0.0826	0.0810		
Butyl benzyl phthalate	0.0800	0.0800	0.0806	0.0796		
Chrysene	0.0800	0.0800	0.0751	0.0740		
Dibenz(a,h)anthracene	0.0800	0.0800	0.0801	0.0793		
Diethyl phthalate	0.0800	0.0800	0.0781	0.0778		
Dimethyl phthalate	0.0800	0.0800	0.0793	0.0786		
Di-n-butyl phthalate	0.0800	0.0800	0.0777	0.0759		

**Quality Control Results**

Client: Waste Management

Job Number: 280-50453-2

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 280-206102****Method: 625  
Preparation: 625**

LCS Lab Sample ID:	LCS 280-206102/2-A	Units:	mg/L	LCS Lab Sample ID:	LCSD 280-206102/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/26/2013 1814			Analysis Date:	12/26/2013 1842
Prep Date:	12/20/2013 1034			Prep Date:	12/20/2013 1034
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Di-n-octyl phthalate	0.0800	0.0800	0.0784	0.0769
Fluoranthene	0.0800	0.0800	0.0767	0.0748
Fluorene	0.0800	0.0800	0.0751	0.0735
Hexachlorobenzene	0.0800	0.0800	0.0749	0.0717
Hexachlorobutadiene	0.0800	0.0800	0.0617	0.0569
Hexachlorocyclopentadiene	0.0800	0.0800	0.0210 J	0.0259 J
Hexachloroethane	0.0800	0.0800	0.0603	0.0545
Indeno[1,2,3-cd]pyrene	0.0800	0.0800	0.0948	0.0741
Isophorone	0.0800	0.0800	0.0806	0.0767
Naphthalene	0.0800	0.0800	0.0727	0.0688
n-Decane	0.0800	0.0800	0.0573	0.0520
Nitrobenzene	0.0800	0.0800	0.0813	0.0794
N-Nitrosodimethylamine	0.0800	0.0800	0.0808	0.0773
N-Nitrosodi-n-propylamine	0.0800	0.0800	0.0801	0.0779
N-Nitrosodiphenylamine	0.0800	0.0800	0.0728	0.0729
p-Cresol	0.0800	0.0800	0.0780	0.0748
Pentachlorophenol	0.160	0.160	0.136	0.129
Phenanthrene	0.0800	0.0800	0.0739	0.0723
Phenol	0.0800	0.0800	0.0800	0.0778
Pyrene	0.0800	0.0800	0.0732	0.0737

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Method Blank - Batch: 280-206058****Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

Lab Sample ID:	MB 280-206058/1-A	Analysis Batch:	280-206558	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a03122313z.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/23/2013 2131	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Arsenic	ND		0.0044	0.015
Cadmium	ND		0.00045	0.0050
Iron	ND		0.022	0.10
Lead	ND		0.0026	0.0090
Zinc	ND		0.0045	0.020
Silver	ND		0.00093	0.010

**Method Blank - Batch: 280-206058****Method: 200.7 Rev 4.4****Preparation: 200.7****Total Recoverable**

Lab Sample ID:	MB 280-206058/1-A	Analysis Batch:	280-206761	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a04122613.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2013 0041	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Selenium	0.0111	J	0.0049	0.015

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Lab Control Sample - Batch: 280-206058

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

Lab Sample ID:	LCS 280-206058/2-A	Analysis Batch:	280-206558	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a03122313z.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/23/2013 2134	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	1.00	1.09	109	88 - 110	
Cadmium	0.100	0.113	113	88 - 111	*
Iron	1.00	0.935	93	89 - 115	
Lead	0.500	0.537	107	89 - 110	
Zinc	0.500	0.521	104	85 - 111	
Silver	0.0500	0.0555	111	85 - 115	

### Lab Control Sample - Batch: 280-206058

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

Lab Sample ID:	LCS 280-206058/2-A	Analysis Batch:	280-206761	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a04122613.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2013 0044	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Selenium	2.00	2.18	109	85 - 112	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-206058**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID:	280-50429-A-1-A MS	Analysis Batch:	280-206558	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a03122313z.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/23/2013 2141			Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50429-A-1-B MSD	Analysis Batch:	280-206558	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a03122313z.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/23/2013 2143			Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Arsenic	112	112	88 - 110	0	20	F1	F1
Cadmium	113	112	88 - 111	1	20	F1	F1
Iron	97	95	89 - 115	1	20		
Lead	105	105	89 - 110	0	20		
Zinc	103	102	85 - 111	1	20		
Silver	114	113	85 - 115	1	20		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-206058**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID:	280-50429-A-1-A MS	Analysis Batch:	280-206761	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a04122613.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2013 0051			Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50429-A-1-B MSD	Analysis Batch:	280-206761	Instrument ID:	MT_026
Client Matrix:	Water	Prep Batch:	280-206058	Lab File ID:	26a04122613.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/27/2013 0053			Final Weight/Volume:	50 mL
Prep Date:	12/20/2013 1215				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Selenium	110	107	85 - 112	3	20		

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-206058**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID: 280-50429-A-1-A MS      Units: mg/L  
 Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 12/23/2013 2141  
 Prep Date: 12/20/2013 1215  
 Leach Date: N/A

MSD Lab Sample ID: 280-50429-A-1-B MSD      Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 12/23/2013 2143  
 Prep Date: 12/20/2013 1215  
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike	MSD Spike	MS		MSD	
		Amount	Amount	Result/Qual	Result/Qual	Result/Qual	Result/Qual
Arsenic	ND	1.00	1.00	1.12	F1	1.12	F1
Cadmium	ND	0.100	0.100	0.113	F1	0.112	F1
Iron	0.14	1.00	1.00	1.11		1.09	
Lead	ND	0.500	0.500	0.526		0.524	
Zinc	0.0052	J	0.500	0.500		0.516	
Silver	ND	0.0500	0.0500	0.0568		0.0565	

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-206058**

**Method: 200.7 Rev 4.4**

**Preparation: 200.7**

**Total Recoverable**

MS Lab Sample ID: 280-50429-A-1-A MS      Units: mg/L  
 Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 12/27/2013 0051  
 Prep Date: 12/20/2013 1215  
 Leach Date: N/A

MSD Lab Sample ID: 280-50429-A-1-B MSD      Client Matrix: Water  
 Dilution: 1.0  
 Analysis Date: 12/27/2013 0053  
 Prep Date: 12/20/2013 1215  
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike	MSD Spike	MS		MSD	
		Amount	Amount	Result/Qual	Result/Qual	Result/Qual	Result/Qual
Selenium	ND	2.00	2.00	2.21		2.14	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Method Blank - Batch: 280-205953**
**Method: 245.1**
**Preparation: 245.1**

Lab Sample ID:	MB 280-205953/1-A	Analysis Batch:	280-206361	Instrument ID:	MT_033
Client Matrix:	Water	Prep Batch:	280-205953	Lab File ID:	131220aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	12/20/2013 1411	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	12/20/2013 0935				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	ND		0.000027	0.00020

**Lab Control Sample - Batch: 280-205953**
**Method: 245.1**
**Preparation: 245.1**

Lab Sample ID:	LCS 280-205953/2-A	Analysis Batch:	280-206361	Instrument ID:	MT_033
Client Matrix:	Water	Prep Batch:	280-205953	Lab File ID:	131220aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	12/20/2013 1414	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	12/20/2013 0935				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00500	0.00479	96	90 - 110	

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-205953**
**Method: 245.1**
**Preparation: 245.1**

MS Lab Sample ID:	280-50429-B-1-B MS	Analysis Batch:	280-206361	Instrument ID:	MT_033
Client Matrix:	Water	Prep Batch:	280-205953	Lab File ID:	131220aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	12/20/2013 1423			Final Weight/Volume:	30 mL
Prep Date:	12/20/2013 0935				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50429-B-1-C MSD	Analysis Batch:	280-206361	Instrument ID:	MT_033
Client Matrix:	Water	Prep Batch:	280-205953	Lab File ID:	131220aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30 mL
Analysis Date:	12/20/2013 1425			Final Weight/Volume:	30 mL
Prep Date:	12/20/2013 0935				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Mercury	95	95	80 - 120	0	10		

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-205953**

**Method: 245.1  
Preparation: 245.1**

MS Lab Sample ID: 280-50429-B-1-B MS      Units: mg/L  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 12/20/2013 1423  
Prep Date: 12/20/2013 0935  
Leach Date: N/A

MSD Lab Sample ID: 280-50429-B-1-C MSD  
Client Matrix: Water  
Dilution: 1.0  
Analysis Date: 12/20/2013 1425  
Prep Date: 12/20/2013 0935  
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	ND	0.00500	0.00500	0.00475	0.00477

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Method Blank - Batch: 480-159349****Method: 1664A****Preparation: 1664A**

Lab Sample ID:	MB 480-159349/1-A	Analysis Batch:	480-159350	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	480-159349	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/24/2013 1851	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	12/24/2013 1851				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
HEM	ND		1.4	5.0

**Lab Control Sample - Batch: 480-159349****Method: 1664A****Preparation: 1664A**

Lab Sample ID:	LCS 480-159349/2-A	Analysis Batch:	480-159350	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	480-159349	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	12/24/2013 1851	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	12/24/2013 1851				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
HEM	40.0	41.7	104	78 - 114	

**Matrix Spike - Batch: 480-159349****Method: 1664A****Preparation: 1664A**

Lab Sample ID:	280-50311-B-1-A MS	Analysis Batch:	480-159350	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	480-159349	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1010 mL
Analysis Date:	12/24/2013 1851	Units:	mg/L	Final Weight/Volume:	1000 mL
Prep Date:	12/24/2013 1851				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
HEM	ND	19.8	19.5	99	78 - 114	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Method Blank - Batch: 280-207019

**Method: 350.1**

**Preparation: N/A**

Lab Sample ID:	MB 280-207019/105	Analysis Batch:	280-207019	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\123013B.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	12/30/2013 1453	Units:	mg/L	Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	ND		0.022	0.10

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 280-207019

**Method: 350.1**

**Preparation: N/A**

LCS Lab Sample ID:	LCS 280-207019/103	Analysis Batch:	280-207019	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\123013B.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/30/2013 1449	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-207019/104	Analysis Batch:	280-207019	Instrument ID:	WC_AlP 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\123013B.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/30/2013 1451	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Ammonia	103	104	90 - 110	1	10	

### Laboratory Control/ Laboratory Duplicate Data Report - Batch: 280-207019

**Method: 350.1**

**Preparation: N/A**

LCS Lab Sample ID:	LCS 280-207019/103	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-207019/104
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/30/2013 1449			Analysis Date:	12/30/2013 1451
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Ammonia	2.50	2.50	2.58	2.60

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-207019****Method: 350.1****Preparation: N/A**

MS Lab Sample ID:	280-50453-2	Analysis Batch:	280-207019	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\123013B.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	12/30/2013 1540			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50453-2	Analysis Batch:	280-207019	Instrument ID:	WC_Alp 3
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	E:\FLOW_4\123013B.RST
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	10 mL
Analysis Date:	12/30/2013 1542			Final Weight/Volume:	10 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	103	104	90 - 110	1	10		

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-207019****Method: 350.1****Preparation: N/A**

MS Lab Sample ID:	280-50453-2	Units:	mg/L	MSD Lab Sample ID:	280-50453-2
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/30/2013 1540			Analysis Date:	12/30/2013 1542
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
	Result/Qual				
Ammonia	0.23	1.00	1.00	1.26	1.27

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### **Method Blank - Batch: 280-207179**

**Method: 351.2**

**Preparation: 351.2**

Lab Sample ID:	MB 280-207179/1-A	Analysis Batch:	280-207314	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-207179	Lab File ID:	010214TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	01/02/2014 2010	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	01/02/2014 0817				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrogen, Kjeldahl	ND		0.18	0.50

### **Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 280-207179**

**Method: 351.2**

**Preparation: 351.2**

LCS Lab Sample ID:	LCS 280-207179/2-A	Analysis Batch:	280-207314	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-207179	Lab File ID:	010214TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	01/02/2014 2008	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	01/02/2014 0817				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-207179/3-A	Analysis Batch:	280-207314	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-207179	Lab File ID:	010214TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	01/02/2014 2009	Units:	mg/L	Final Weight/Volume:	25 mL
Prep Date:	01/02/2014 0817				
Leach Date:	N/A				

Analyte	<u>% Rec.</u>		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Nitrogen, Kjeldahl	96	95	90 - 110	1	25	

### **Laboratory Control/ Laboratory Duplicate Data Report - Batch: 280-207179**

**Method: 351.2**

**Preparation: 351.2**

LCS Lab Sample ID:	LCS 280-207179/2-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-207179/3-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	01/02/2014 2008			Analysis Date:	01/02/2014 2009
Prep Date:	01/02/2014 0817			Prep Date:	01/02/2014 0817
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrogen, Kjeldahl	6.00	6.00	5.76	5.68

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-207179****Method: 351.2  
Preparation: 351.2**

MS Lab Sample ID:	280-50453-F-1-E MS	Analysis Batch:	280-207314	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-207179	Lab File ID:	010214TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	01/02/2014 2041			Final Weight/Volume:	25 mL
Prep Date:	01/02/2014 0817				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50453-F-1-F MSD	Analysis Batch:	280-207314	Instrument ID:	WC_Astoria
Client Matrix:	Water	Prep Batch:	280-207179	Lab File ID:	010214TKN.tab
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	25 mL
Analysis Date:	01/02/2014 2043			Final Weight/Volume:	25 mL
Prep Date:	01/02/2014 0817				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Nitrogen, Kjeldahl	74	75	90 - 110	0	25	F1	F1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 280-207179****Method: 351.2  
Preparation: 351.2**

MS Lab Sample ID:	280-50453-F-1-E MS	Units:	mg/L	MSD Lab Sample ID:	280-50453-F-1-F MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	01/02/2014 2041			Analysis Date:	01/02/2014 2043
Prep Date:	01/02/2014 0817			Prep Date:	01/02/2014 0817
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike	MSD Spike	MS	MSD
	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Nitrogen, Kjeldahl	6.4	3.00	3.00	8.61	F1

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### **Method Blank - Batch: 280-207152**

**Method: 353.2**

**Preparation: N/A**

Lab Sample ID:	MB 280-207152/27	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	12/31/2013 1520	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	ND		0.019	0.10

### **Method Reporting Limit Check - Batch: 280-207152**

**Method: 353.2**

**Preparation: N/A**

Lab Sample ID:	MRL 280-207152/18	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/31/2013 1507	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	0.100	0.0758	76	50 - 150	J

Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 280-207152	<b>Method: 353.2</b>
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LCS Lab Sample ID:	LCS 280-207152/28	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/31/2013 1522	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-207152/29	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/31/2013 1523	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Nitrate Nitrite as N	102	103	90 - 110	1	10	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Laboratory Control/ Laboratory Duplicate Data Report - Batch: 280-207152

**Method: 353.2**  
**Preparation: N/A**

LCS Lab Sample ID:	LCS 280-207152/28	Units:	mg/L	LCS Lab Sample ID:	LCSD 280-207152/29
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/31/2013 1522			Analysis Date:	12/31/2013 1523
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Nitrate Nitrite as N	5.00	5.00	5.10	5.14

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-207152

**Method: 353.2**  
**Preparation: N/A**

MS Lab Sample ID:	280-50221-H-2 MS	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/31/2013 1537			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50221-H-2 MSD	Analysis Batch:	280-207152	Instrument ID:	WC_Alp 2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	C:\FLOW_4\1231NXNA.RS
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/31/2013 1538			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Nitrate Nitrite as N	99	99	90 - 110	0	10		

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-207152

**Method: 353.2**  
**Preparation: N/A**

MS Lab Sample ID:	280-50221-H-2 MS	Units:	mg/L	MSD Lab Sample ID:	280-50221-H-2 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/31/2013 1537			Analysis Date:	12/31/2013 1538
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Nitrate Nitrite as N	1.5	4.00	4.00	5.43	5.41

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Method Blank - Batch: 280-206702

**Method: 365.1**

**Preparation: 365.2/365.3/365**

Lab Sample ID:	MB 280-206702/5-A	Analysis Batch:	280-206889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-206702	Lab File ID:	122813TPHOSa.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/28/2013 1122	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/26/2013 1710				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Phosphorus, Total	0.00916	J	0.0050	0.050

### Laboratory Control Sample/ Laboratory Control Sample Duplicate Recovery Report - Batch: 280-206702

**Method: 365.1**

**Preparation: 365.2/365.3/365**

LCS Lab Sample ID:	LCS 280-206702/3-A	Analysis Batch:	280-206889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-206702	Lab File ID:	122813TPHOSa.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/28/2013 1118	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/26/2013 1710				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-206702/4-A	Analysis Batch:	280-206889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-206702	Lab File ID:	122813TPHOSa.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/28/2013 1122	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	12/26/2013 1710				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Phosphorus, Total	106	107	90 - 110	1	10	

### Laboratory Control/ Laboratory Duplicate Data Report - Batch: 280-206702

**Method: 365.1**

**Preparation: 365.2/365.3/365**

LCS Lab Sample ID:	LCS 280-206702/3-A	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-206702/4-A
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/28/2013 1118			Analysis Date:	12/28/2013 1122
Prep Date:	12/26/2013 1710			Prep Date:	12/26/2013 1710
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Phosphorus, Total	0.500	0.500	0.530	0.534

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-206702

**Method: 365.1**  
**Preparation: 365.2/365.3/365**

MS Lab Sample ID:	280-50453-F-1-B MS	Analysis Batch:	280-206889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-206702	Lab File ID:	122813TPHOSa.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/28/2013 1122			Final Weight/Volume:	50 mL
Prep Date:	12/26/2013 1710				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50453-F-1-C MSD	Analysis Batch:	280-206889	Instrument ID:	WC_Konelab
Client Matrix:	Water	Prep Batch:	280-206702	Lab File ID:	122813TPHOSa.xls
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	50 mL
Analysis Date:	12/28/2013 1122			Final Weight/Volume:	50 mL
Prep Date:	12/26/2013 1710				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Phosphorus, Total	100	97	90 - 110	1	10		

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-206702

**Method: 365.1**  
**Preparation: 365.2/365.3/365**

MS Lab Sample ID:	280-50453-F-1-B MS	Units:	mg/L	MSD Lab Sample ID:	280-50453-F-1-C MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/28/2013 1122			Analysis Date:	12/28/2013 1122
Prep Date:	12/26/2013 1710			Prep Date:	12/26/2013 1710
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike	MSD Spike	MS	MSD
	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Phosphorus, Total	0.44	0.500	0.500	0.937	0.924

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Method Blank - Batch: 280-205961

**Method: 410.4**

**Preparation: N/A**

Lab Sample ID:	MB 280-205961/5	Analysis Batch:	280-205961	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	2 mL
Analysis Date:	12/19/2013 1312	Units:	mg/L	Final Weight/Volume:	2 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Chemical Oxygen Demand	6.49	J	4.1	20

### Lab Control Sample/ Lab Control Sample Duplicate Recovery Report - Batch: 280-205961

**Method: 410.4**

**Preparation: N/A**

LCS Lab Sample ID:	LCS 280-205961/3	Analysis Batch:	280-205961	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 1312	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-205961/4	Analysis Batch:	280-205961	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 1312	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Chemical Oxygen Demand	106	105	90 - 110	1	11	

### Laboratory Control/ Laboratory Duplicate Data Report - Batch: 280-205961

**Method: 410.4**

**Preparation: N/A**

LCS Lab Sample ID:	LCS 280-205961/3	Units:	mg/L	LCSD Lab Sample ID:	LCSD 280-205961/4
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/19/2013 1312			Analysis Date:	12/19/2013 1312
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Chemical Oxygen Demand	100	100	106	105

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-205961

**Method: 410.4**  
**Preparation: N/A**

MS Lab Sample ID:	280-50320-D-1 MS	Analysis Batch:	280-205961	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 1312			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	280-50320-D-1 MSD	Analysis Batch:	280-205961	Instrument ID:	WC_HACH SPEC
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 1312			Final Weight/Volume:	100 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Chemical Oxygen Demand	95	95	90 - 110	0	11		

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 280-205961

**Method: 410.4**  
**Preparation: N/A**

MS Lab Sample ID:	280-50320-D-1 MS	Units:	mg/L	MSD Lab Sample ID:	280-50320-D-1 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/19/2013 1312			Analysis Date:	12/19/2013 1312
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample	MS Spike	MSD Spike	MS	MSD
	Result/Qual	Amount	Amount	Result/Qual	Result/Qual
Chemical Oxygen Demand	43	50.0	50.0	91.1	91.1

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

### Method Blank - Batch: 280-205879

#### Method: SM 2540D

Preparation: N/A

Lab Sample ID:	MB 280-205879/1	Analysis Batch:	280-205879	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	12/19/2013 0748	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Suspended Solids	ND		1.1	4.0

### Lab Control Sample/

### Lab Control Sample Duplicate Recovery Report - Batch: 280-205879

#### Method: SM 2540D

Preparation: N/A

LCS Lab Sample ID:	LCS 280-205879/2	Analysis Batch:	280-205879	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 0748	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-205879/3	Analysis Batch:	280-205879	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/19/2013 0748	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec.		RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD				
Total Suspended Solids	94	101	86 - 114	7	20	

### Laboratory Control/

### Laboratory Duplicate Data Report - Batch: 280-205879

#### Method: SM 2540D

Preparation: N/A

LCS Lab Sample ID:	LCS 280-205879/2	Units:	mg/L	LCS Lab Sample ID:	LCSD 280-205879/3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/19/2013 0748			Analysis Date:	12/19/2013 0748
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Total Suspended Solids	100	100	94.0	101

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Duplicate - Batch: 280-205879**

**Method: SM 2540D**

**Preparation: N/A**

Lab Sample ID:	280-50437-A-1 DU	Analysis Batch:	280-205879	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	250 mL
Analysis Date:	12/19/2013 0748	Units:	mg/L	Final Weight/Volume:	250 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Suspended Solids	ND	ND	NC	10	

## Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

**Method Blank - Batch: 280-207342**

**Method: Total Nitrogen**

**Preparation: N/A**

Lab Sample ID:	MB 280-207342/1	Analysis Batch:	280-207342	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	01/03/2014 0847	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrogen, Total	ND		0.042	0.10

# Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

## Laboratory Chronicle

**Lab ID:** 280-50453-2

**Client ID:** DB01-E

Sample Date/Time: 12/15/2013 12:14 Received Date/Time: 12/18/2013 10:30

Method	Bottle ID	Run	Analysis		Date Prepared / Analyzed		Dil	Lab	Analyst
			Batch	Prep Batch					
P:625	280-50453-C-2-A	280-206695	280-206102	12/20/2013 10:34	1	TAL DEN	BMS		
A:625	280-50453-C-2-A	280-206695	280-206102	12/27/2013 04:25	1	TAL DEN	TLW		
A:218.6	280-50453-I-2	440-152190		12/23/2013 18:21	1	TAL IRV	RW		
P:200.7	280-50453-H-2-B	280-206558	280-206058	12/20/2013 12:15	1	TAL DEN	LLB		
A:200.7 Rev 4.4	280-50453-H-2-B	280-206558	280-206058	12/23/2013 22:02	1	TAL DEN	SJS		
P:200.7	280-50453-H-2-B	280-206761	280-206058	12/20/2013 12:15	1	TAL DEN	LLB		
A:200.7 Rev 4.4	280-50453-H-2-B	280-206761	280-206058	12/27/2013 01:12	1	TAL DEN	SJS		
P:245.1	280-50453-H-2-A	280-206361	280-205953	12/20/2013 09:35	1	TAL DEN	CRR		
A:245.1	280-50453-H-2-A	280-206361	280-205953	12/20/2013 14:44	1	TAL DEN	JM		
P:1664A	280-50453-B-2-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB		
A:1664A	280-50453-B-2-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB		
A:350.1	280-50453-F-2	280-207019		12/30/2013 15:38	1	TAL DEN	RSN		
P:351.2	280-50453-G-2-A	280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG		
A:351.2	280-50453-G-2-A	280-207314	280-207179	01/02/2014 20:44	1	TAL DEN	MW1		
A:353.2	280-50453-F-2	280-207152		12/31/2013 16:04	1	TAL DEN	DVA		
P:365.2/365.3/365	280-50453-F-2-A	280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS		
A:365.1	280-50453-F-2-A	280-206889	280-206702	12/28/2013 11:22	1	TAL DEN	AJS		
A:410.4	280-50453-F-2	280-205961		12/19/2013 17:25	1	TAL DEN	AFB		
A:SM 2540D	280-50453-E-2	280-205879		12/19/2013 07:48	1	TAL DEN	BAN		
A:Total Nitrogen	280-50453-A-2	280-207342		01/03/2014 08:47	1	TAL DEN	RKS		
A:Field Sampling	280-50453-A-2	280-205900		12/15/2013 12:14	1	TAL DEN	FS		

**Lab ID:** 280-50453-2 MS

**Client ID:** DB01-E

Sample Date/Time: 12/15/2013 12:14 Received Date/Time: 12/18/2013 10:30

Method	Bottle ID	Run	Analysis		Date Prepared / Analyzed		Dil	Lab	Analyst
			Batch	Prep Batch					
A:350.1	280-50453-F-2 MS	280-207019			12/30/2013 15:40	1	TAL DEN	RSN	

**Lab ID:** 280-50453-2 MSD

**Client ID:** DB01-E

Sample Date/Time: 12/15/2013 12:14 Received Date/Time: 12/18/2013 10:30

Method	Bottle ID	Run	Analysis		Date Prepared / Analyzed		Dil	Lab	Analyst
			Batch	Prep Batch					
A:350.1	280-50453-F-2 MSD	280-207019			12/30/2013 15:42	1	TAL DEN	RSN	

# Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

## Laboratory Chronicle

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis		Date Prepared / Analyzed		Dil	Lab	Analyst
			Batch	Prep Batch					
P:625	MB 280-206102/1-A	280-206695	280-206102	12/20/2013 10:34	1	TAL DEN	BMS		
A:625	MB 280-206102/1-A	280-206695	280-206102	12/27/2013 02:06	1	TAL DEN	TLW		
P:200.7	MB 280-206058/1-A	280-206558	280-206058	12/20/2013 12:15	1	TAL DEN	LLB		
A:200.7 Rev 4.4	MB 280-206058/1-A	280-206558	280-206058	12/23/2013 21:31	1	TAL DEN	SJS		
P:200.7	MB 280-206058/1-A	280-206761	280-206058	12/20/2013 12:15	1	TAL DEN	LLB		
A:200.7 Rev 4.4	MB 280-206058/1-A	280-206761	280-206058	12/27/2013 00:41	1	TAL DEN	SJS		
P:245.1	MB 280-205953/1-A	280-206361	280-205953	12/20/2013 09:35	1	TAL DEN	CRR		
A:245.1	MB 280-205953/1-A	280-206361	280-205953	12/20/2013 14:11	1	TAL DEN	JM		
P:1664A	MB 480-159349/1-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB		
A:1664A	MB 480-159349/1-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB		
A:350.1	MB 280-207019/105	280-207019		12/30/2013 14:53	1	TAL DEN	RSN		
P:351.2	MB 280-207179/1-A	280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG		
A:351.2	MB 280-207179/1-A	280-207314	280-207179	01/02/2014 20:10	1	TAL DEN	MW1		
A:353.2	MB 280-207152/27	280-207152		12/31/2013 15:20	1	TAL DEN	DVA		
P:365.2/365.3/365	MB 280-206702/5-A	280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS		
A:365.1	MB 280-206702/5-A	280-206889	280-206702	12/28/2013 11:22	1	TAL DEN	AJS		
A:410.4	MB 280-205961/5	280-205961		12/19/2013 13:12	1	TAL DEN	AFB		
A:SM 2540D	MB 280-205879/1	280-205879		12/19/2013 07:48	1	TAL DEN	BAN		
A:Total Nitrogen	MB 280-207342/1	280-207342		01/03/2014 08:47	1	TAL DEN	RKS		

# Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

## Laboratory Chronicle

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	LCS 280-206102/2-A	280-206695	280-206102	12/20/2013 10:34	1	TAL DEN	BMS	
A:625	LCS 280-206102/2-A	280-206695	280-206102	12/26/2013 18:14	1	TAL DEN	TLW	
P:200.7	LCS 280-206058/2-A	280-206558	280-206058	12/20/2013 12:15	1	TAL DEN	LLB	
A:200.7 Rev 4.4	LCS 280-206058/2-A	280-206558	280-206058	12/23/2013 21:34	1	TAL DEN	SJS	
P:200.7	LCS 280-206058/2-A	280-206761	280-206058	12/20/2013 12:15	1	TAL DEN	LLB	
A:200.7 Rev 4.4	LCS 280-206058/2-A	280-206761	280-206058	12/27/2013 00:44	1	TAL DEN	SJS	
P:245.1	LCS 280-205953/2-A	280-206361	280-205953	12/20/2013 09:35	1	TAL DEN	CRR	
A:245.1	LCS 280-205953/2-A	280-206361	280-205953	12/20/2013 14:14	1	TAL DEN	JM	
P:1664A	LCS 480-159349/2-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB	
A:1664A	LCS 480-159349/2-A	480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB	
A:350.1	LCS 280-207019/103	280-207019		12/30/2013 14:49	1	TAL DEN	RSN	
P:351.2	LCS 280-207179/2-A	280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG	
A:351.2	LCS 280-207179/2-A	280-207314	280-207179	01/02/2014 20:08	1	TAL DEN	MW1	
A:353.2	LCS 280-207152/28	280-207152		12/31/2013 15:22	1	TAL DEN	DVA	
P:365.2/365.3/365	LCS 280-206702/3-A	280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS	
A:365.1	LCS 280-206702/3-A	280-206889	280-206702	12/28/2013 11:18	1	TAL DEN	AJS	
A:410.4	LCS 280-205961/3	280-205961		12/19/2013 13:12	1	TAL DEN	AFB	
A:SM 2540D	LCS 280-205879/2	280-205879		12/19/2013 07:48	1	TAL DEN	BAN	

Lab ID: LCSD

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:625	LCSD 280-206102/3-A	280-206695	280-206102	12/20/2013 10:34	1	TAL DEN	BMS	
A:625	LCSD 280-206102/3-A	280-206695	280-206102	12/26/2013 18:42	1	TAL DEN	TLW	
A:350.1	LCSD 280-207019/104	280-207019		12/30/2013 14:51	1	TAL DEN	RSN	
P:351.2	LCSD 280-207179/3-A	280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG	
A:351.2	LCSD 280-207179/3-A	280-207314	280-207179	01/02/2014 20:09	1	TAL DEN	MW1	
A:353.2	LCSD 280-207152/29	280-207152		12/31/2013 15:23	1	TAL DEN	DVA	
P:365.2/365.3/3655	LCSD 280-206702/4-A	280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS	
A:365.1	LCSD 280-206702/4-A	280-206889	280-206702	12/28/2013 11:22	1	TAL DEN	AJS	
A:410.4	LCSD 280-205961/4	280-205961		12/19/2013 13:12	1	TAL DEN	AFB	
A:SM 2540D	LCSD 280-205879/3	280-205879		12/19/2013 07:48	1	TAL DEN	BAN	

# Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

## Laboratory Chronicle

Lab ID: MRL

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis	Prep Batch	Date Prepared /	Dil	Lab	Analyst
			Batch		Analyzed			
A:353.2	MRL 280-207152/18		280-207152		12/31/2013 15:07	1	TAL DEN	DVA

Lab ID: MS

Client ID: N/A

Sample Date/Time: 12/18/2013 10:05

Received Date/Time: 12/18/2013 13:12

Method	Bottle ID	Run	Analysis	Prep Batch	Date Prepared /	Dil	Lab	Analyst
			Batch		Analyzed			
P:200.7	280-50429-A-1-A MS		280-206558	280-206058	12/20/2013 12:15	1	TAL DEN	LLB
A:200.7 Rev 4.4	280-50429-A-1-A MS		280-206558	280-206058	12/23/2013 21:41	1	TAL DEN	SJS
P:200.7	280-50429-A-1-A MS		280-206761	280-206058	12/20/2013 12:15	1	TAL DEN	LLB
A:200.7 Rev 4.4	280-50429-A-1-A MS		280-206761	280-206058	12/27/2013 00:51	1	TAL DEN	SJS
P:245.1	280-50429-B-1-B MS		280-206361	280-205953	12/20/2013 09:35	1	TAL DEN	CRR
A:245.1	280-50429-B-1-B MS		280-206361	280-205953	12/20/2013 14:23	1	TAL DEN	JM
P:1664A	280-50311-B-1-A MS		480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB
A:1664A	280-50311-B-1-A MS		480-159350	480-159349	12/24/2013 18:51	1	TAL BUF	RMB
P:351.2	280-50453-F-1-E MS		280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG
A:351.2	280-50453-F-1-E MS		280-207314	280-207179	01/02/2014 20:41	1	TAL DEN	MW1
A:353.2	280-50221-H-2 MS		280-207152		12/31/2013 15:37	1	TAL DEN	DVA
P:365.2/365.3/36 5	280-50453-F-1-B MS		280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS
A:365.1	280-50453-F-1-B MS		280-206889	280-206702	12/28/2013 11:22	1	TAL DEN	AJS
A:410.4	280-50320-D-1 MS		280-205961		12/19/2013 13:12	1	TAL DEN	AFB

# Quality Control Results

Client: Waste Management

Job Number: 280-50453-2

## Laboratory Chronicle

Lab ID: MSD		Client ID: N/A		Sample Date/Time: 12/18/2013 10:05		Received Date/Time: 12/18/2013 13:12		
Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:200.7	280-50429-A-1-B MSD		280-206558	280-206058	12/20/2013 12:15	1	TAL DEN	LLB
A:200.7 Rev 4.4	280-50429-A-1-B MSD		280-206558	280-206058	12/23/2013 21:43	1	TAL DEN	SJS
P:200.7	280-50429-A-1-B MSD		280-206761	280-206058	12/20/2013 12:15	1	TAL DEN	LLB
A:200.7 Rev 4.4	280-50429-A-1-B MSD		280-206761	280-206058	12/27/2013 00:53	1	TAL DEN	SJS
P:245.1	280-50429-B-1-C MSD		280-206361	280-205953	12/20/2013 09:35	1	TAL DEN	CRR
A:245.1	280-50429-B-1-C MSD		280-206361	280-205953	12/20/2013 14:25	1	TAL DEN	JM
P:351.2	280-50453-F-1-F MSD		280-207314	280-207179	01/02/2014 08:17	1	TAL DEN	SMG
A:351.2	280-50453-F-1-F MSD		280-207314	280-207179	01/02/2014 20:43	1	TAL DEN	MW1
A:353.2	280-50221-H-2 MSD		280-207152		12/31/2013 15:38	1	TAL DEN	DVA
P:365.2/365.3/36 5	280-50453-F-1-C MSD		280-206889	280-206702	12/26/2013 17:10	1	TAL DEN	AJS
A:365.1	280-50453-F-1-C MSD		280-206889	280-206702	12/28/2013 11:22	1	TAL DEN	AJS
A:410.4	280-50320-D-1 MSD		280-205961		12/19/2013 13:12	1	TAL DEN	AFB
Lab ID: DU		Client ID: N/A		Sample Date/Time: 12/18/2013 09:12		Received Date/Time: 12/18/2013 11:07		
Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:SM 2540D	280-50437-A-1 DU		280-205879		12/19/2013 07:48	1	TAL DEN	BAN

### Lab References:

TAL BUF = TestAmerica Buffalo

TAL DEN = TestAmerica Denver

TAL IRV = TestAmerica Irvine

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

1946 Young St. Suite 400A

Honolulu, HI 96826

Tel: 808-486-5227

TestAmerica Job ID: HWL0055

Client Project/Site: 60287037.02

Client Project Description: AECOM, W GSL STORMWATER

Revision: 1

For:

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Attn: Betsy Sara



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Authorized for release by:

1/3/2014 1:17:41 PM

Kristie Reilly, Project Manager

808-486-5227

[Kristie.Brachmann@testamericainc.com](mailto:Kristie.Brachmann@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

# Table of Contents

Cover Page .....	1
Table of Contents .....	2
Definitions .....	3
Case Narrative .....	4
Sample Summary .....	5
Detection Summary .....	6
Client Sample Results .....	7
QC Sample Results .....	8
QC Association .....	9
Chronicle .....	10
Certification Summary .....	11
Method Summary .....	12
Chain of Custody .....	13

## Definitions/Glossary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

### Qualifiers

#### WetChem

Qualifier	Qualifier Description
L2	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.

### Glossary

**Abbreviation** These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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## Case Narrative

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

### Job ID: HWL0055

Laboratory: TestAmerica Honolulu

#### Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain(s) of Custody are included and are an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(808)486-5227

#### LABORATORY REPORT

At sample receipt, the cooler/sample was 3 degrees C.

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

The LCS in BOD batch 13L0033 which included sample HWL0055-01 was failing low. Due to the holding time and method parameters reanalysis was not possible.

Report revised 1/3/14 to correct client sample ID.

## Sample Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HWL0055-01	DB01-E	Water - NonPotable	12/15/13 12:14	12/16/13 08:45

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## Detection Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

**Client Sample ID: DB01-E**

**Lab Sample ID: HWL0055-01**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
BOD - 5 Day	3.14		2.00		mg/L	1.00		SM5210B	Total

This Detection Summary does not include radiochemical test results.

TestAmerica Honolulu

# Client Sample Results

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

**Client Sample ID: DB01-E**  
**Date Collected: 12/15/13 12:14**  
**Date Received: 12/16/13 08:45**

**Lab Sample ID: HWL0055-01**  
**Matrix: Water - NonPotable**

## Method: SM5210B - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
BOD - 5 Day	3.14		2.00		mg/L		12/16/13 15:21	12/21/13 08:59	1.00

# QC Sample Results

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

## Method: SM5210B - General Chemistry Parameters

**Lab Sample ID: 13L0033-BLK1**

**Matrix: Water - NonPotable**

**Analysis Batch: 13L0033**

**Client Sample ID: Method Blank**

**Prep Type: Total**

**Prep Batch: 13L0033\_P**

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
BOD - 5 Day	ND		2.00		mg/L		12/16/13 15:10	12/21/13 08:45	1.00

**Lab Sample ID: 13L0033-BS1**

**Matrix: Water - NonPotable**

**Analysis Batch: 13L0033**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total**

**Prep Batch: 13L0033\_P**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits	RPD
	Added	Result	Qualifier					
BOD - 5 Day	198	150	L2	mg/L	76	85 - 115		

**Lab Sample ID: 13L0033-DUP1**

**Matrix: Water - NonPotable**

**Analysis Batch: 13L0033**

**Client Sample ID: Duplicate**

**Prep Type: Total**

**Prep Batch: 13L0033\_P**

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD
	Result	Qualifier					
BOD - 5 Day	33.3		32.8		mg/L		2

# QC Association Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

## WetChem

### Analysis Batch: 13L0033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13L0033-BLK1	Method Blank	Total	Water - NonPotable	SM5210B	13L0033_P
13L0033-BS1	Lab Control Sample	Total	Water - NonPotable	SM5210B	13L0033_P
13L0033-DUP1	Duplicate	Total	Water - NonPotable	SM5210B	13L0033_P
HWL0055-01	DB01-E	Total	Water - NonPotable	SM5210B	13L0033_P

### Prep Batch: 13L0033\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
13L0033-BLK1	Method Blank	Total	Water - NonPotable	Default Prep GenChem	13L0033_P
13L0033-BS1	Lab Control Sample	Total	Water - NonPotable	Default Prep GenChem	13L0033_P
13L0033-DUP1	Duplicate	Total	Water - NonPotable	Default Prep GenChem	13L0033_P
HWL0055-01	DB01-E	Total	Water - NonPotable	Default Prep GenChem	13L0033_P

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## Lab Chronicle

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

**Client Sample ID: DB01-E**

**Date Collected: 12/15/13 12:14**

**Date Received: 12/16/13 08:45**

**Lab Sample ID: HWL0055-01**

**Matrix: Water - NonPotable**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	13L0033_P	12/16/13 15:21	NK	TAL HON
Total	Analysis	SM5210B		1.00	13L0033	12/21/13 08:59	NK	TAL HON

**Laboratory References:**

TAL HON = TestAmerica Honolulu, 1946 Young St. Suite 400A, Honolulu, HI 96826, TEL 808-486-5227

## Certification Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

### Laboratory: TestAmerica Honolulu

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87907	06-30-14
Hawaii	State Program	9	N/A	06-28-14
USDA	Federal		HON-S-206	01-31-15

## Method Summary

Client: TestAmerica Denver  
Project/Site: 60287037.02

TestAmerica Job ID: HWL0055

Method	Method Description	Protocol	Laboratory
SM5210B	General Chemistry Parameters		TAL HON

### Protocol References:

TAL HON = TestAmerica Honolulu, 1946 Young St. Suite 400A, Honolulu, HI 96826, TEL 808-486-5227

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Destination Laboratory Denver

Destination Laboratory PM (if known) \_\_\_\_\_

## Drop Shipment Receipt Checklist

Client Name: AeconDate/ Time Received: 12/16/12 8:45Received By: N. H. KRMatrices: AQCarrier: Ciant

Airbill# :

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Cooler opened at TestAmerica Honolulu?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers matched to COC at TestAmerica Honolulu?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	
Any sample containers obviously broken/damaged upon receipt?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sample containers on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: <u>Liquit</u>
Custody seals present? If so, location? (Cooler, sample containers?)	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	
Custody seals intact?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No VOA vials present: <u>None</u> ✓
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
pH Adjusted? Yes	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Final pH:
Encores / MI-VOC / 5035 Vials Present?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sample Filtration Needed?	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
DODQSM / QAPP Project (if known)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: _____

Temperature Blank Present? Yes  No Sample Container Temperature: 3.0 °CSamples drop shipped on ice? Yes  No  Type: WetDate of drop shipment: 12/16/12

### Comments/ Sampling Handling Notes:

## Chain of Custody Record

Sampler ID \_\_\_\_\_  
 Temperature on Receipt \_\_\_\_\_  
 Drinking Water? Yes  No

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Address	Project Manager	Date	Chain of Custody Number				
Waste Management / Kelon 1001 Bishop St. Suite 1000 Honolulu, HI 96813	Mark Hofererst	Lab Number	168569				
Telephone Number (Area Code)/Fax Number	Site Contact	Analysis (Attach sheet if more space is needed)	Page _____ of _____				
408-355-5717, F: 808-523-8150	Justin Votig	353.2 NO-MD					
Carrier/Waybill Number	Betty Sara	350.1 Ammonium					
Project Name and Location (State)		365.1 Phos					
Wester Storm Water		410.1 COD					
Contract/Purchase Order/Quote No.		625. SVOCs					
102281031102		SM 25100 TES					
(Containers for each sample may be combined on one line)	Matrix	Containers & Preservatives					
DD01-E	Date	Time	Sample #	Spec	Preservative	Uptakes	Notes
	12/15/13	12:10	X	441	HCl	H2SO4	4-tertiary, benzoic acid, phenol, pentachlorophenol
		12:14					As Cd, Cr, Pb, Hg, Se, Mgn
Comments _____							

TAL-4124-280 (0508)

Possible Hazard Identification	Non-Hazard	Flammable	Skin Irritant	Poison B	Unknown	Return To Client	Disposal By Lab	Archive For _____ Months	(A fee may be assessed if samples are retained longer than 1 month)
Turn Around Time Required									
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 7 Days	<input checked="" type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other _____				
1. Relinquished By		Date		Time		1. Received By		Date	
<u>Mark Hofererst</u>		12/10/13		8:15		<u>Kristie Reilly</u>		12/10/13	
2. Relinquished By		Date		Time		2. Received By		Date	
<u>Mark Hofererst</u>		12/10/13		8:15		<u>Kristie Reilly</u>		12/10/13	
3. Relinquished By		Date		Time		3. Received By		Date	
Comments _____									

## **FIELD INFORMATION FORM**

Site  
Name: WGSL

Site  
No.: 

--	--	--	--

The Waste Management logo consists of the letters "WM" in a bold, italicized font, with "WASTE MANAGEMENT" in a smaller, all-caps sans-serif font below it.

This Waste Management Field Information Form is Required

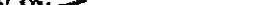
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e., with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

12/15/13  
12/15/13  
Date

Margie Thach  
Michelle Wong

  
Michelle Wong

**AECOM**  
**AECOM**  
Company

**DISTRIBUTION:** WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Con-

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-50453-2

**Login Number: 50453**

**List Source: TestAmerica Denver**

**List Number: 1**

**Creator: Dedio, Michael T**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	Yes: Preservation labels on samples match COC
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	False	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-50453-2

**Login Number: 50453**

**List Source: TestAmerica Buffalo**

**List Number: 1**

**List Creation: 12/20/13 08:34 PM**

**Creator: Goliszek, Gregory T**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

## Login Sample Receipt Checklist

Client: Waste Management

Job Number: 280-50453-2

**Login Number: 50453**

**List Source: TestAmerica Irvine**

**List Number: 1**

**List Creation: 12/23/13 01:16 PM**

**Creator: Kim, Guerry**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	